

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
13 October 2005 (13.10.2005)

PCT

(10) International Publication Number  
**WO 2005/095578 A1**

(51) International Patent Classification<sup>7</sup>:

**C12M 3/06**

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(21) International Application Number:

PCT/EP2005/002374

(22) International Filing Date: 4 March 2005 (04.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

04075703.1	5 March 2004 (05.03.2004)	EP
04075702.3	5 March 2004 (05.03.2004)	EP
04077656.9	27 September 2004 (27.09.2004)	EP
04077657.7	27 September 2004 (27.09.2004)	EP

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**WO 2005/095578 A1**

(54) Title: PROCESS FOR CELL CULTURING BY CONTINUOUS PERfusion AND ALTERNATING TANGENTIAL FLOW

(57) Abstract: The invention relates to a process for the culturing of cells by continuous perfusion culturing of a cell culture comprising cell culture medium and cells, wherein cell culture medium is added to the cell culture, the cell culture is circulated over a filter module comprising hollow fibers resulting in an outflow of liquid having a lower cell density than the cell culture and the flow within the filter module is an alternating tangential flow. Preferably, culture medium is added at a particular perfusion rate and/or biomass is removed from the culture at least once. The method is especially suitable for the culturing of aggregating cells. The invention also relates to such a process wherein a biological substance, preferably an antibody, is produced by the cells, which biological substance may be further purified in downstream processing.